

SUPPLEMENTARY MATERIAL

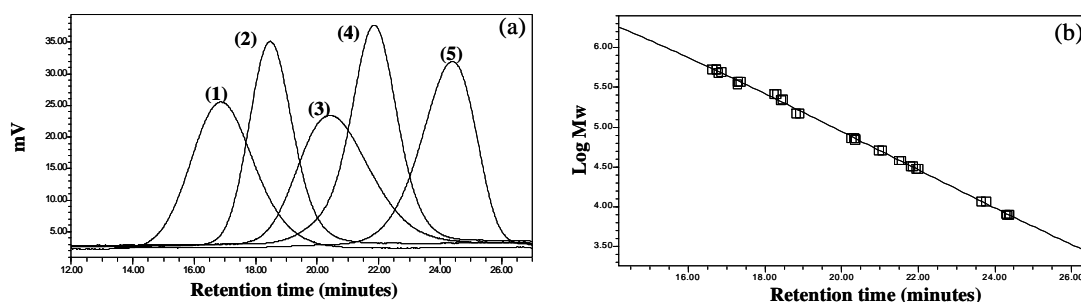


Figure 1S: Chromatograms (a) and calibration curve (b) of GPC-RI for the dextran standards (1) DXT530K $M_w=5.34 \times 10^5 \text{ g mol}^{-1}$; (2) DXT260K $M_w=2.61 \times 10^5 \text{ g mol}^{-1}$; (3) DXT72K $M_w=7.27 \times 10^4 \text{ g mol}^{-1}$; (4) DXT38K $M_w=3.82 \times 10^4 \text{ g mol}^{-1}$; (5) DXT11K $M_w=1.17 \times 10^4 \text{ g mol}^{-1}$.

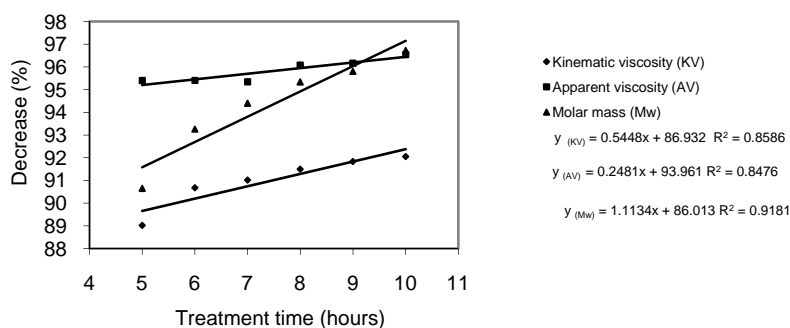


Figure 2S: Decrease in kinematic and apparent viscosities and molar masses of chitosans in solid state thermally degraded at 100°C for a period of 5 to 10 hours ($p \leq 0.05$).

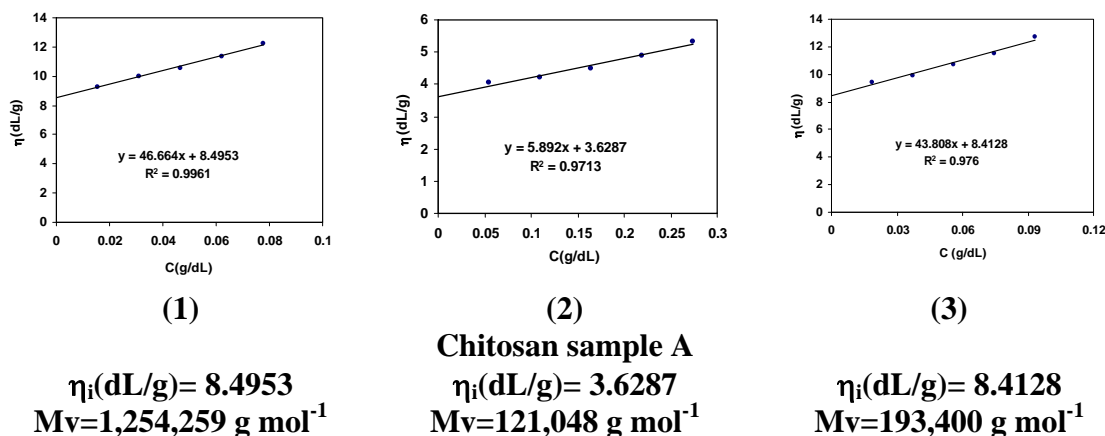


Figure 3S: Linear regressions to obtain the limiting viscosity number by extrapolation of Mark-Houwink's relationship between intrinsic viscosity and chitosan concentration of control sample (A) and M_v values using solvents 1, 2 and 3.

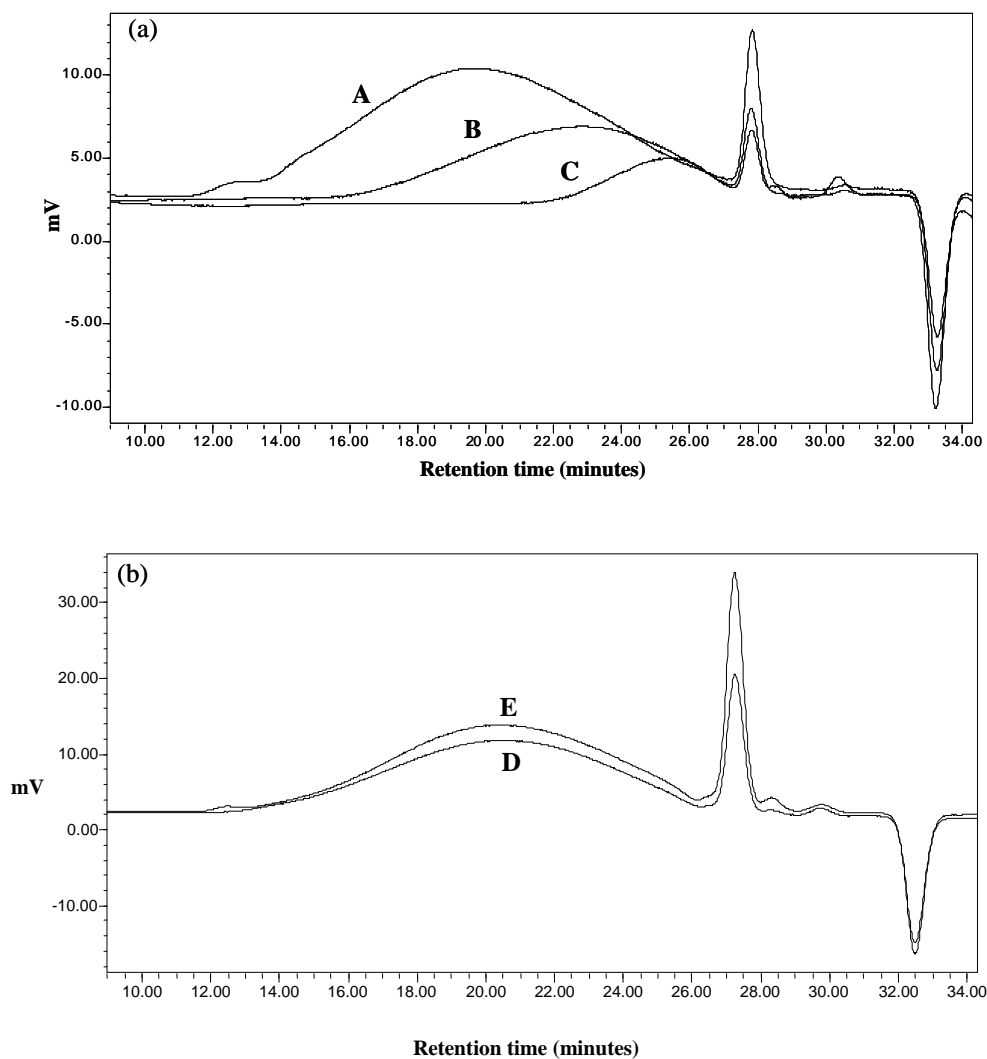


Figure 4S: Chromatographic profiles obtained by GPC-RI for chitosans: (a) without thermal treatment A, and thermally treated for 3 hours B and 10 hours C at 100°C and (b) chitosans D and E, obtained by alkaline deacetylation (Table 2).

Table 1S: Decrease in kinematic and apparent viscosities and molar mass of chitosans in solid state thermally degraded at 100°C for 10 hours ($p \leq 0.05$).

Time (hours)	Decrease (%)		
	Kinematic viscosity (KV)	Apparent viscosity (AV)	Molar mass (Mw)
0	0 ^a	0 ^a	0 ^a
1	34.1 ^b	13.3 ^b	4.1 ^b
2	52.2 ^c	44.9 ^c	33.7 ^c
3	80.5 ^d	83.7 ^d	73.4 ^d
4	86.6 ^e	92.5 ^e	81.8 ^e
5	89.0 ^f	95.4 ^e	90.6 ^f
6	90.7 ^g	95.4 ^e	93.3 ^g
7	91.0 ^h	95.3 ^e	94.4 ^g
8	91.5 ⁱ	96.1 ^e	95.3 ^h
9	91.8 ^j	96.2 ^e	95.8 ^h
10	92.0 ^j	96.5 ^e	96.7 ^h

Different letters in the same column indicate significant differences between the means obtained with the Tukey test ($p \leq 0.05$).

Table 2S: Decrease (%) in average molar mass (Mw), viscosity average molar mass (Mv) and apparent and kinematic viscosities of chitosan in solid state, thermally treated at 100°C

Code	Treatment time (hours)	Decrease (%)			
		Mw	Mv	Apparent viscosity	Kinematic viscosity
A	0	0	0	0	0
B	3	73.4	52.9	92.3	86.3
C	10	96.7	94.5	95.3	91.4